Code No: C4308 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations March/April-2011
PROGRAMMABLE LOGIC CONTROLLERS & ITS APPLICATIONS
(POWER ELECTRONICS)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks
- - -

1. a) Discuss about architecture of a PLC.
   b) What are the advantages and disadvantages of a PLC? [12]

2. a) List the limitations of Ladder diagram construction in PLC.
   b) What is meant by SCANNING of PLC program? [12]

3. Describe the devices that are interfaced to the inputs and outputs of PLC's. [12]

4. Describe the control of an industrial process through PLC involving ON-OFF inputs producing ON-OFF outputs. [12]

5. a) Explain how various digital logic gates can be implemented through contact and coil logic in PLC.
   b) Explain how ladder diagrams are created from process controlled descriptions. [12]

6. a) Describe various timer functions used in PLCs.
   b) When a large motor is started, a lubrication pump for the bearings of the large motor is also started. When the large motor is switched off, it is desired that lubrication pump should continue to run for 40 seconds more. Draw a ladder Diagram to implement this scheme. [12]

7. Explain PLC Sequencer Function. Give an example for its application in industry. [12]

8. What is PID control? How is it programmed in PLC? Give an example of programming PID control using PLC in industry. [12]

* * * * *